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Attestation

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The attached documents are exact copies of the European patent application described on the following page, as originally filed.

Les documents fixés à cette attestation sont conformes à la version initialement déposée de la demande de brevet européen spécifiée à la page suivante.

Patentanmeldung Nr. Patent application No. Demande de brevet n°

02016324.2

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R C van Dijk

DEN HAAG, DEN
THE HAGUE,
LA HAYE, LE

12/03/03



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Blatt 2 der Bescheinigung
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Item of seating furniture

5 The invention relates to an item of seating furniture having a seat and a backrest, which are supported in an articulated manner on a frame, and having an operating mechanism for adjusting the inclination of the seat and the backrest.

10 Items of seating furniture, especially armchairs, that permit motor-aided adjustment of the backrest and the seat are known from practice. By means of a control system, the user can adjust the item of seating furniture continuously between a relatively upright position and a reclined position.

15 The operating mechanism usually has an electrical motor which brings about the adjustment of the seat and the backrest by way of a linkage. The user finds it more pleasant when the angle between the seat and the backrest in the reclined position is larger than in the sitting position. In order to bring about this sequence of movement with a single drive motor, relatively complex linkages are provided between the motor, the seat and the backrest in the items of seating furniture known from practice. Those linkages are relatively complex both in terms of manufacture and in terms of assembly. In addition, they require a relatively large amount of installation space, so that such items of seating furniture often appear relatively bulky and unattractive. Although a correspondingly thinner upholstery material could be used, that would lead to an undesirable loss of comfort.

20 The object of the invention is therefore to provide an item of seating furniture which is distinguished by a simple operating mechanism.

25 According to the invention, the object is achieved by the features of claim 1.

30 The item of seating furniture according to the invention has a seat and a backrest which are supported in an articulated manner on a frame. Furthermore, an operating mechanism for adjusting the inclination of the seat and the backrest is provided. The

backrest also has a catch member and, when the backrest is inclined from a front position into an inclined rear position, the catch member comes into operative contact with the seat as of a specific angle of inclination of the backrest in such a manner that further inclination of the backrest brings about a simultaneous adjustment of the seat.

Further forms of the invention are the subject-matter of the subsidiary claims.

In a preferred embodiment, the seat and the backrest have a common pivot axis on the frame.

Thus, the backrest is adjustable independently of the seat from the front position up to the specific angle of inclination at which the catch member comes into operative contact with the seat. As a result, the angle between the seat and the backrest can be increased during inclination towards the rear. Only when the catch member comes into operative contact with the seat, and the seat and the backrest are adjusted at the same time, does the angle between the seat and the backrest cease to change.

Further advantages and forms of the invention will be explained in more detail by means of the description of an embodiment and the drawings.

In the drawings:

Figure 1 is a diagrammatic side view of the item of seating furniture in the front position,

Figure 2 is a diagrammatic side view of the item of seating furniture in various intermediate positions, and

Figure 3 is a diagrammatic side view of the item of seating furniture in the inclined, rear position.

The item of seating furniture shown in the drawings consists substantially of a seat 1 and a backrest 2 which are supported in an articulated manner on a frame 3. An operating mechanism 4, which is formed, for example, by a linear drive, is also provided for adjusting the inclination of the seat and the backrest. An armrest 8 is also indicated by a broken line.

The seat 1 has a front region 1a and a rear region 1b and is supported on the frame 3 in the rear region 1b by way of a pivot axis 5. In the position shown in Figure 1, the seat is supported on the frame by way of a support member 6.

In the transition region between the seat and the backrest, the backrest 2 is likewise supported on the frame by way of the pivot axis 5. However, the support of the seat 1 and the backrest 2 on the pivot axis 5 permits independent adjustment of the seat and the backrest.

The operating mechanism 4, which is formed, for example, by a linear drive, is supported on the frame 3 by its one end 4a and is in operative contact with the backrest 2 by its other end. An adjustment of the operating mechanism 4 therefore causes the backrest 2 to pivot about the pivot axis 5, as shown especially in Figure 2 by various positions of the backrest 2.

A catch member 7 is also fitted to the backrest 2 and, when the backrest 2 is inclined from the front position shown in Figure 1 into an inclined rear position shown in Figure 3, the catch member 7 comes into operative contact with the seat 1 as of a specific angle of inclination of the backrest in such a manner that further inclination of the backrest brings about simultaneous adjustment of the seat. The specific angle of inclination at which the catch member 7 comes into operative contact with the seat 1 is shown in Figure 2 by the backrest marked by the reference sign 2'. Further inclination of the backrest towards the rear causes the seat 1 to be entrained, as shown especially in Figure 3.

By means of a single linear drive the movement mechanism described above therefore permits adjustment of the backrest 2 relative to the seat 1, the angle α between the seat 1 and 2 changing, for example, from 100° to 130° . Meanwhile, the seat 1 initially remains in its original position. In the embodiment shown, the angle γ of the seat 1 relative to the horizontal is, for example, 10° . As soon as the catch member 7 comes into contact with the seat face 1, the angle β between the seat face 1 and the backrest 2 no longer changes. Rather, the seat 1 and the backrest 2 continue to be adjusted synchronously, an angle δ between the seat 1 and the horizontal of, for example, 25° being set.

The described operating mechanism is distinguished by a very compact and simple structure. Although only one drive motor is necessary, the backrest can be adjusted independently of the seat in the first stage, while common adjustment is permitted in the second stage. Owing to the increase in the angle between the seat and the backrest in the backwardly inclined position, the user is assured an especially pleasant and comfortable reclining position.

Furthermore, the simple and compact structure of the operating mechanism requires only a relatively small installation space, so that aesthetic pieces of furniture can also be produced.

Patent claims

1. Item of seating furniture having a seat (1) and a backrest (2) which are supported in an articulated manner on a frame (3), and having an operating mechanism (4) for adjusting the inclination of the seat and the backrest,
- characterised in that the backrest (2) has a catch member (7) and, when the backrest is inclined from a front position into an inclined rear position, the catch member comes into operative contact with the seat as of a specific angle of inclination of the backrest in such a manner that further inclination of the backrest brings about a simultaneous adjustment of the seat.
2. Item of seating furniture according to claim 1, characterised in that the backrest (2) is adjustable independently of the seat (1) from the front position up to the specific angle of inclination at which the catch member (7) comes into operative contact with the seat.
3. Item of seating furniture according to claim 1, characterised in that the seat (1) and the backrest (2) have a common pivot axis (5) on the frame (3).
4. Item of seating furniture according to claim 1, characterised in that the seat (1) has a front region (1a) and a rear region (1b) and the seat is supported on the frame (3) in the rear region by way of a pivot axis (5).
5. Item of seating furniture according to claim 1, characterised in that the backrest (2) is supported on the frame (3) by way of a pivot axis (5), the pivot axis being provided in a transition region between the seat (1) and the backrest (2).
6. Item of seating furniture according to claim 1, characterised in that the operating mechanism (4) is formed by a linear drive which is supported on

the frame (3) by one end (4a) and is in operative contact with the backrest (2) by the other end (4b).

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7. Item of seating furniture according to claim 1, characterised in that the angle β between the seat and the backrest remains unaltered during the simultaneous adjustment of the seat and the backrest.

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8. Item of seating furniture according to claim 1, characterised in that the operating mechanism (4) permits a change in the angle (α , β) between the seat and the backrest.

Abstract

An item of seating furniture having a seat and a backrest which are supported in an articulated manner on a frame, and having an operating mechanism for adjusting the inclination of the seat and the backrest. The backrest has a catch member and, when the backrest is inclined from a front position into an inclined rear position, the catch member comes into operative contact with the seat as of a specific angle of inclination of the backrest in such a manner that further inclination of the backrest brings about a simultaneous adjustment of the seat.

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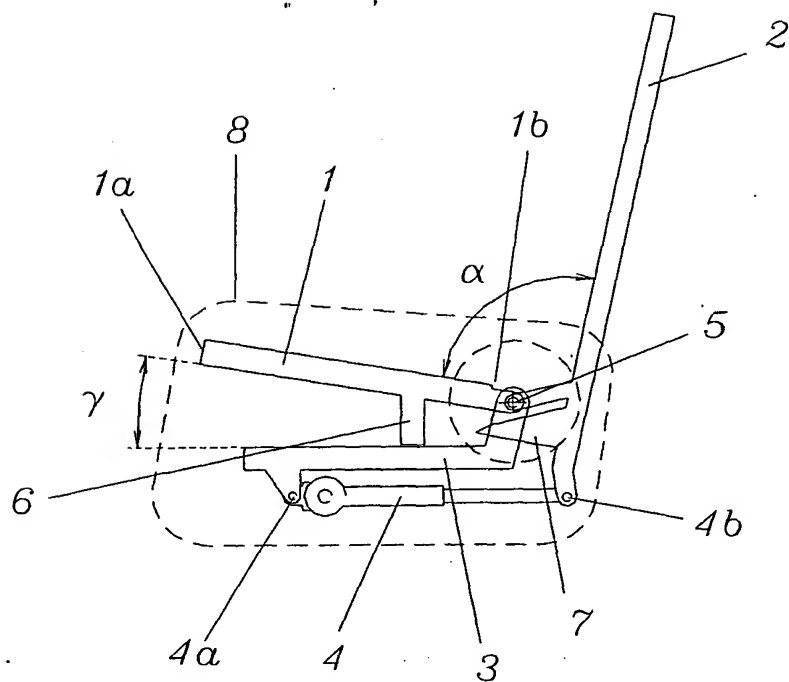


Fig. 1

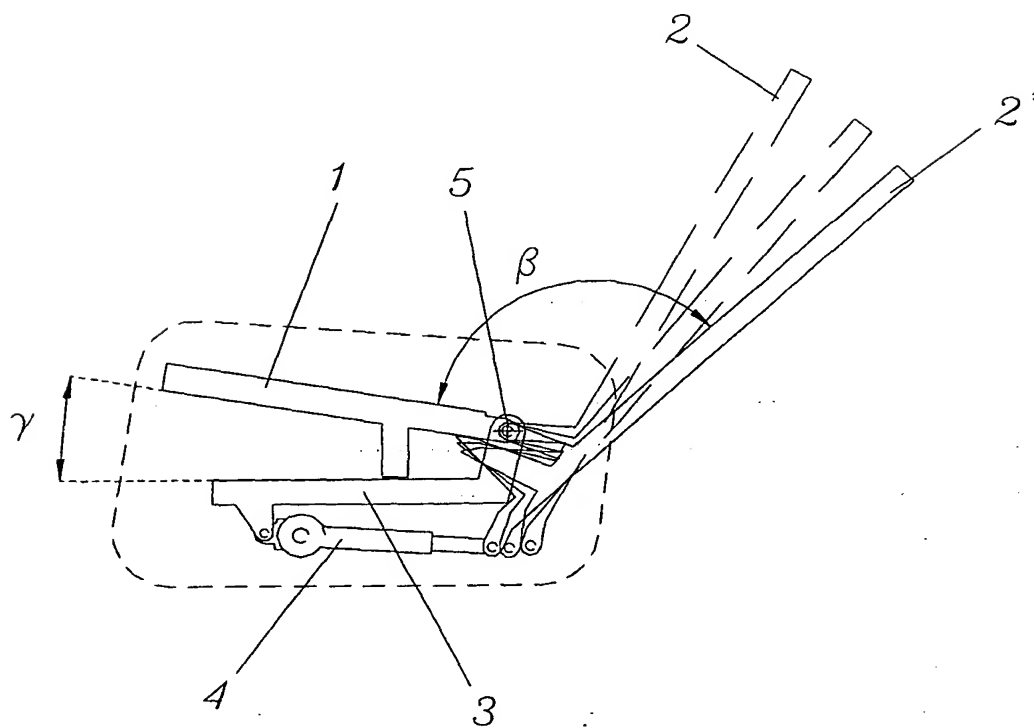


Fig. 2

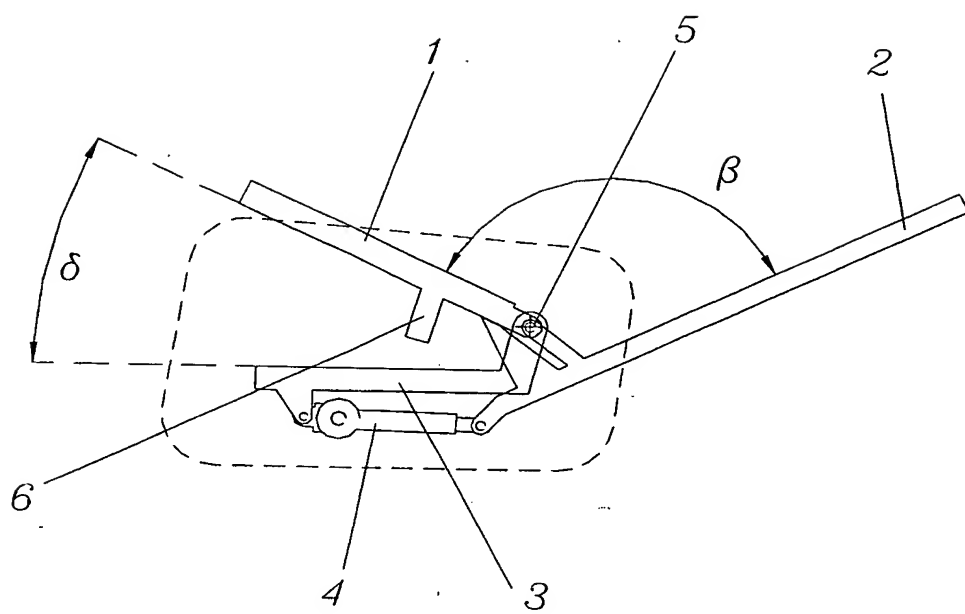


Fig. 3